A multitrait-multimethod analysis of four maternal employment role experiences

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Introduction

Since the second world war, the number of employed women has continued to increase, and the rate of labor force participation for mothers has grown faster than that for women in general (Allen and Keaveny, 1979). Most research on employed mothers has been undertaken with the expectation that employment status would be related to variables such as depression, marital adjustment and child well-being (Heins, Stillman, Sabers and Mazzeo, 1983; Martin, Burgess and Crnic, 1985). Yet contrary to expectations, no consistent adverse effects of employment status have emerged despite the voluminous body of research (see Bronfenbrenner and Crouter, 1982; Hoffman, 1986; Lewis and Cooper, 1983; Siegel, 1985 for reviews). It has recently been suggested that a more appropriate focus for research on the effects of maternal employment is the mother's experience of her role, not employment status (Barling, Fullagar and Marchl-Dingel, in press; Hoffman, 1986). Indeed, some research suggests that negative effects for mothers, their children and their marriage result when they have negative experiences of their role as an employed mother (Farel, 1980; Stuckey, McGhee and Bell, 1982).

Four specific experiences associated with the role of employed mother have been assessed: Satisfaction, commitment, involvement and interrole conflict. In general, in the absence of buffering variables, interrole conflict predicts negative consequences for the employed mother, her spouse and children (e.g. Barling, 1986; Barling and Van Bart, 1984; Greenhaus and Beutell, 1985; Holahan and Gilbert, 1979, 1981; MacEwen and Barling, in press; Pleck, Staines and Lang, 1980; Suchet and Barling, 1986). Similar effects have emerged when the variable of interest was mothers’ satisfaction with their role as employed mother (Lerner and Galambos, 1985), maternal employment role involvement (Barling et al., in press; Pistrang, 1985; Pleck, 1985; Warr & Parry, 1982; Yogev & Brett, 1985), and role commitment (Hornstein, 1986).

Although there is consistency between results of studies investigating the experience of being an employed mother, definitions of involvement, satisfaction and commitment are inconsistent across studies and overlap with each other, placing into question their construct validity. In one
study, for example, ‘... “role involvement” was defined as a psychological commitment to a particular set of activities which, taken together, constitute a role ...’, and it was concluded that ‘by asking subjects to indicate their level of involvement ... variations in the pattern of role commitment could be determined’ (Hornstein, 1986, p. 557). Furthermore, comparisons between studies are hampered by the use of different questionnaires with varying lengths, response formats, ranges and distributions (Cooper and Richardson, 1986) for both role involvement (e.g. Pleck, 1985; Yoge and Brett, 1985) and role commitment (Barling et al., in press; Hornstein, 1986). Significant correlations between the various employment role experiences further question whether they are discriminable from each other (Morrow, 1983). For example, interrole conflict is negatively associated with job satisfaction (Anderson-Kulman and Paludi, 1986; Pleck et al. 1980) and commitment (Duckett, 1980; Krause and Geyer-Pestello, 1985).

The aim of the present study is to assess whether there is a distinction between interrole conflict, role satisfaction, role commitment and role involvement using a multitrait–multimethod approach (Campbell and Fiske, 1959).

**Method**

**Definitions and measures of the employment role experiences**

Two methods and two sources (namely wives and husbands) were used to assess each of the four role variables. First, items derived from standard questionnaires measuring interrole conflict, role satisfaction, role commitment and role involvement were adapted to be appropriate for assessing employed mothers' role experiences, and were rated using seven-point scales ranging from ‘not at all true’ to ‘very true’. As an alternate method, subjects were provided with definitions of each of the four constructs and were asked to rate the applicability of each of the definitions to their situation using a seven-point scale (Meier, 1984). Women completed self reports, and husbands reported on their wives. In all cases, questionnaires were presented to the subjects before the definitions, and both questionnaires and definitions were presented in the order in which they are presented below (see Appendix A for measures used).

**Role involvement**

Following Lodahl and Kejner (1965), role involvement was defined as the psychological identification with one's role, or the degree to which one's role is central to one's identity. This definition has been used as a basis for generating measures to general job involvement (Jans, 1982; Kanungo, 1979) and employment role involvement (Frone and Rice, 1987; Yoge and Brett, 1985). Six items were adapted from Lodahl and Kejner's (1965) Job Involvement Scale so that the items referred to involvement in the role of employed mother.

**Role commitment**

The definition of role commitment was derived from that of Mowday, Steers and Porter (1979). Role commitment comprises a loyalty toward one's role, a feeling of responsibility toward one's role, and a willingness to exert greater effort than that typically prescribed for role incumbents. Commitment to the role of employed mother was assessed using seven items adapted from Mowday et al.'s (1979) Organizational Commitment Questionnaire, chosen because they were relevant to employed mothers.
Role satisfaction
Locke's (1983) definition of job satisfaction was adopted for the purpose of this study, according to which satisfaction is ‘... a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences’ (p. 1300). To measure uni-dimensional satisfaction with the role of employed mother, six items were adapted from Brayfield and Rothe's (1951) Overall Job Satisfaction scale.

Interrole conflict
The definition of interrole conflict was derived from that of Kopelman, Greenhaus and Connolly (1983), which is 'the extent to which a person experiences pressures within one role that are incompatible with the pressures that arise within another role' (p. 201). Interrole conflict was assessed using Kopelman et al.'s (1983) eight-item scale.

Pilot study
Because the employment role satisfaction, role involvement and role commitment questionnaires used in the present study had not been previously used to measure maternal employment role experiences, a pilot study was conducted to ensure the reliability of all scales. Twenty-four married mothers ($M$ age = 37.76 years, $S.D.$ = 7.44; $M$ age of their children = 11.62 years, $S.D.$ = 6.33) attending an evening introductory psychology class and their spouses ($M$ age = 39.79 years, $S.D.$ = 8.48) participated. All the measures for both wives' self reports (range = 0.78–0.90) and husbands' ratings of their wives (range = 0.86–0.90) showed high internal consistency, and hence all items were retained in the main study.

Main study
Procedure
A list of couples with children was compiled using community newspaper birth lists. Couples were then telephoned, the study was explained briefly to them, and they were prescreened according to the following criteria. First, individuals had to be married and living with their spouse, both partners had to be employed outside the home, and have at least one child living at home. Two hundred and twenty-five couples contacted met the eligibility requirements and were mailed questionnaires. Seventy-five couples responded, yielding a 33 per cent response rate.

Subjects
The couples completing questionnaires were heterogenous with respect to socioeconomic status, age, and the age of their children, although the majority consisted of young families. The average age of the women was 34 years ($S.D.$ = 5.4), and that of the men was 37 years ($S.D.$ = 6.8). Both men and women reported an average of 14 years of formal education ($S.D.$ = 2.8 and 2.4 respectively; range = 8–20 years). Fifteen per cent of the families had one child, 61 per cent had two children, 21 per cent three, and 3 per cent four children. The ages of the children extended from less than a year to 21, but 70 per cent of the children were between the ages of three and 10, with an average age of 7.8 years ($S.D.$ = 4.4).

Results
The internal reliabilities for the four role questionnaires for both husbands and wives were high. A multitrait–multimethod matrix was constructed (see Table 1) and the convergent and discriminant
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( ): Reliabilities
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- Heterotrait–monomethod
- Heterotrait–heteromethod
validity of the four role variables were assessed according to the criteria stipulated by Campbell and Fiske (1959) (see Table 1).

Convergent validity of the employment role variables
Convergent validity is indicated by the magnitude of the correlations between different measures of the same role variable. All six validity coefficients for role satisfaction and interrole conflict were significant, as were five of the correlations for role commitment and four for role involvement \( (p < 0.01) \). A binomial test was computed to assess whether the number of significant validity coefficients for each variable differed from chance \( (e.g. \text{Evans}, 1969) \). This analysis confirmed that all four employment role experiences satisfy the criterion of convergent validity \( (p < 0.05) \), even though, with the exception of satisfaction, the convergent validities appear low.

Discriminant validity of the employment role variables
Campbell and Fiske (1959) suggest three criteria for assessing discriminant validity. First, the correlations in the validity diagonals should be greater than those in the corresponding row and column of the heterotrait–heteromethod triangles. In other words, the correlation of a single variable measured by two different methods should exceed the correlation between that same variable and any other variable measured using different methods. To determine whether this criterion was satisfied, 36 comparisons were needed for each of the four employment role variables (see Table 1). A binomial test was again used to assess whether a significant proportion of the validity coefficients for each variable were greater than the relevant correlations in the heterotrait–heteromethod triangles. The results suggest the discriminability of role commitment, role satisfaction and interrole conflict \( (p < 0.01, \text{one-tailed}) \), but not role involvement (proportion significant = 0.53; \( p > 0.05 \)).

The second criterion for discriminant validity is that a validity coefficient should exceed corresponding values in the rows and columns of the heterotrait–monomethod triangle (Campbell and Fiske, 1959). That is, the correlation between two measures of the same variable should be greater than the correlation between two different variables measured by the same method. All 18 possible comparisons were subjected to a statistical analysis to assess whether the number of correlations significant in each set of 18 comparisons exceeded chance levels. The results of this analysis suggest additional support for the discriminant validity of role satisfaction and interrole conflict (proportion significant = 0.97 and 0.78 respectively; \( p < 0.01, \text{one-tailed} \)). However, for role involvement and role commitment the proportion of comparisons in which the validity coefficient was significantly greater than zero was less than expected by chance (proportion significant = 0.39 for both; \( p > 0.05, \text{one-tailed} \)).

The final and most stringent criterion against which Campbell and Fiske (1959) evaluated discriminant validity specifies that the pattern of correlations should be the same in each of the heterotrait–heteromethod and heterotrait–monomethod triangles. Because visual inspection of 16 triangles is extremely difficult, Kendall’s coefficient of concordance was used to compare the pattern of correlations in each of the 16 triangles \( (\text{Evans}, 1969) \). Kendall’s coefficient of concordance was statistically significant, demonstrating that the pattern of intercorrelations in each of the 16 triangles are sufficiently similar \( (W = 0.48; \chi^2(5) = 38.29, p < 0.0001) \). This suggests that the findings regarding convergent and discriminant validity are stable across all methods of measurement.
Confirmatory analysis of variance

From the above tests for convergent and discriminant validity, role satisfaction and interrole conflict seem to be discriminable from each other. Role involvement, however, showed convergent but not discriminant validity, and the results regarding the discriminant validity of the role commitment variable were mixed in that role commitment met the first criterion for discriminant validity but not the second.

To confirm the above findings and further assess the discriminant validity of role commitment using a less subjective procedure, the confirmatory analysis of variance approach suggested by Kavanagh, MacKinney and Wolins (1971) was adopted. Role involvement was excluded because it clearly lacked discriminant validity in the previous analyses. Kavanagh et al.’s (1971) ANOVA provides a test of method variance, convergent, and discriminant validity, and variance components associated with each of these terms can be derived.

The variance associated with the Subjects term (which denotes convergent validity) was statistically significant ($F(74, 444) = 9.5, p < 0.0001$; $35$ per cent of the variance). Likewise, the Subjects $\times$ Role experience term (which provides information regarding discriminant validity) explained a significant proportion of the variance ($23$ per cent; $F(148, 444) = 1.98, p < 0.01$). However, the Subjects $\times$ Method term (which corresponds to method variance) was not significant ($8$ per cent of the variance; $F(222,444) = 0.89$).

Discussion

In the present study, the construct validity of four maternal employment role experiences, viz. interrole conflict, role satisfaction, involvement and commitment was investigated using a multitrait–multimethod methodology. Based both on Campbell and Fiske’s (1959) criteria for analysing a multitrait–multimethod matrix and a subsequent confirmatory analysis of variance (Kavanagh et al., 1971), the results suggest that interrole conflict, role satisfaction and role commitment are discriminable constructs. Role involvement, on the other hand, was not discriminable from the other three constructs.

Several implications can be derived from the present findings that are relevant for the evaluation of past research on maternal employment role experiences, and for conducting further research in this area. First, because the concept of role involvement was indiscernible from interrole conflict, satisfaction and commitment, past research purporting to assess maternal employment role involvement should be interpreted cautiously. Research on role involvement may not necessarily be assessing a different construct from research investigating the other three variables. This means that recent studies such as those proposing typologies of dual-career couples based on family role involvement (Yoge and Brett, 1985), or suggesting that the relationship between job involvement and job/spouse conflict is moderated by spouse role involvement (Frone and Rice, 1987) should be interpreted within the context of a possible conceptual overlap with other role variables.

Before drawing conclusions regarding the discriminant validity of role involvement at least one alternative explanation for the lack of construct validity for maternal employment role involvement should be considered. Using the present multitrait–multimethod methodology, maternal employment role involvement was so highly correlated with the other three variables and with the methods used that role involvement appears to lack construct validity. However, role involvement may still be discriminable from the other three role variables, and the high correlations between role involvement and the other three variables may result because involve-
ment is the cause and/or consequence of interrole conflict, role commitment and/or role satisfaction, or because involvement is spuriously related to the other three variables. Thus, it is important not to assume conceptual overlap between role involvement and the other three variables before a causal or spurious relationship is excluded (Kanungo, 1982).

The present results also have some implications for the design of future research into the causes and consequences of maternal employment role variables. First, there is a need for future research to use uniform definitions of the three role variables to facilitate generalizations across studies. For at least interrole conflict, role satisfaction and role commitment, the definitions and scales employed in the present study are reliable in terms of both internal consistency and interrater reliability, and appear to be conceptually distinct.

Any conclusions derived from the present study must be qualified because they may be applicable only to other studies using the same definitions and measures of the role variables. It remains to be determined whether role involvement exhibits construct validity using other definitions of involvement. While the construct validity of employment role involvement is questionable, the results of the present study provide strong support for the construct validity of interrole conflict, employment role satisfaction and employment role commitment.

References


**Appendix 1**

**Involvement in role of employed mother: Questionnaire**

1. The most important things that happen to me/my wife involve my/her role as an employed mother
(2) I/my wife have/has other activities more important than my/her role as employed mother
(3) I/my wife live/s, eat/s and breath/s my/her role as employed mother
(4) To me/my wife, being an employed mother is only a small part of who I/she am/is
(5) I/my wife am/is very much involved personally in my/her role as an employed mother
(6) To me/my wife, most things in life are more important than being an employed mother

Commitment to the role of employed mother: Questionnaire

(7) I/my wife am/is willing to put in a great deal of effort beyond that normally expected in order to be successful as an employed mother
(8) I/my wife would do almost anything to remain an employed mother
(9) I/my wife am/is proud to tell others I/she am/is an employed mother
(10) It would take very little in my/her present circumstances to get me/her to become a nonemployed mother (R)
(11) I/my wife feel/s that there is not too much to be gained by remaining an employed mother (R)
(12) Often I/my wife find/s it difficult to agree with the values espoused by employed mothers (R)
(13) To me/my wife, being an employed mother is the best of all possible roles to hold

Satisfaction with the role of employed mother: Questionnaire

(14) I/my wife consider/s my/her role as employed mother rather unpleasant (R)
(15) I/my wife definitely dislike/s being an employed mother (R)
(16) I/my wife feel/s happier in my/her role as employed mother than most other employed mothers
(17) I/my wife find/s real enjoyment in being an employed mother
(18) I/my wife am/is disappointed that I/she ever became an employed mother (R)
(19) Most days I/my wife am/is enthusiastic about being an employed mother
(20) All in all I/my wife am/is very satisfied with being an employed mother

Interrole conflict: Questionnaire

(21) I/my wife feel/s that my/her work schedule often conflicts with my/her family life
(22) After work I/my wife come/s home too tired to do some of the things I'd/she'd like to do
(23) On the job I/my wife have/has so much work to do that it takes away from my/her personal interests
(24) I feel that my family dislikes how often I am preoccupied with my work while I am home
(25) Because my/my wife's work is demanding, sometimes I/she am/is irritable at home
(26) The demands of my/my wife's job make it difficult to be relaxed all the time I/she am/is at home
(27) My/my wife's work takes up time I'd/she'd like to spend with my/our family
(28) My/my wife's job makes it difficult for me/her to be the kind of spouse or parent I'd/she'd like to be
Role involvement: Definition

(29) Role involvement is defined as psychological identification with one's role, or the degree to which one's role is central to one's identity.

Role commitment: Definition

(30) Role commitment is defined as an attitude having three components: (a) loyalty to one's role, (b) a feeling of responsibility toward one's role, and (c) a willingness to exert effort over and above that normally required of role incumbents.

Role satisfaction: Definition

(31) Role satisfaction is defined as a pleasurable or positive emotional experience resulting from the appraisal of one's role or role experiences.

Interrole conflict: Definition

(32) Interrole conflict is defined as the extent to which a person experiences pressures within one role that are incompatible with the pressures that arise in another role.